## AMENDMENTS TO THE CLAIMS

Claim 1. (currently amended) ~~An on-chip~~ A high pass filter, comprising:

a capacitor connected between an input port and an output port;

a first transistor having a first terminal connected to a first voltage source and a second terminal connected to the output port;

a second transistor having a first terminal connected to the second terminal of the first transistor and a second terminal connected to ground; and

a second voltage source ~~connected~~ coupled to a third terminal of the first transistor and the second transistor such that the first and the second transistors are operated ~~in a saturation mode;~~ as a large-resistance resistor, the second voltage source comprising:

a third transistor having a first terminal connected to the first voltage source, a second terminal connected to the third terminal of the first and the second transistor, and a third terminal connected to the second terminal thereof; and

a fourth transistor having a first terminal connected to the second terminal of the first transistor, a second terminal connected to ground, and a third terminal connected to the first terminal thereof.

~~wherein by operating the first and the second transistors in the saturation mode, the first transistor and the second transistor are operated as a large resistance resistor.~~

Claim 2. (original) The high-pass filter of claim 1, wherein the first transistor is an n-type

transistor.

Claim 3. (original) The high-pass filter of claim 1, wherein the second transistor is a p-type transistor.

Claim 4. (cancelled)

Claim 5. (cancelled)

Claim 6. (currently amended) ~~The on-chip high pass filter of claim 1, wherein the second voltage source includes:~~ A high pass filter, comprising:

a capacitor connected between an input port and an output port;

a first transistor having a first terminal connected to a first voltage source and a second terminal connected to the output port;

a second transistor having a first terminal connected to the second terminal of the first transistor and a second terminal connected to ground; and

a second voltage source coupled to a third terminal of the first transistor and the second transistor such that the first and the second transistors are operated as a large-resistance resistor, the second voltage source comprising:

a third transistor having a first terminal connected to the first voltage source, a second terminal, and a third terminal;

a fourth transistor having a first terminal connected to the second terminal of the

first transistor, a second terminal connected to ground, and a third terminal; and

an amplifier having a first input terminal connected to the second terminal of the first transistor, a second input terminal connected to a bias voltage source, and an output terminal connected to the third terminal of the first, the second, the third, and the fourth transistor.

Claim 7. (cancelled)

Claim 8. (currently amended) The high-pass filter of ~~claim 7,~~ claim 6, wherein the first transistor is an n-type transistor.

Claim 9. (currently amended) The high-pass filter of ~~claim 7,~~ claim 6, wherein the second transistor is a p-type transistor.

Claim 10. (cancelled)

Claim 11. (cancelled)

Claim 12. (currently amended) The high-pass filter of ~~claim 7,~~ claim 6, wherein the first and the second transistors are operated in a saturation mode.

Claim 13. (new) The high-pass filter of claim 1, wherein the first and the second transistors are operated in a saturation mode.